

ANNEX NO.1
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LANGLEY RESEARCH CENTER
AND
INTUITIVE MACHINES, LLC
UNDER SPACE ACT UMBRELLA AGREEMENT SAA1-38098
FOR
EARTH ENTRY VEHICLE CONCEPTUAL DESIGN

ARTICLE 1. PURPOSE

This Annex shall be for the purpose of supporting Intuitive Machines, LLC (IM) with initial design of an Earth Entry Vehicle (EEV). NASA Langley Research Center (LaRC) will develop a conceptual design for an EEV for lunar sample return missions. The EEV conceptual design is intended to support an IM flight demonstration opportunity as early as the first quarter of 2025 with an operational mission as early as 2026. Efforts beyond EEV conceptual design will be outlined in subsequent Annexes.

The legal authority for this Annex, consistent with the Umbrella Agreement, is in accordance with the Space Act, Other Transactions Authority (OTA), 51 U.S.C. § 20113(e).

ARTICLE 2. RESPONSIBILITIES

A. NASA LaRC will use reasonable efforts to:

1. Participate in virtual EEV technical tag-up meetings with IM.
2. Develop a conceptual design for an EEV based on Partner-provided mission design information and requirements.
 - a. Design includes vehicle outer mold line geometry, aeroshell structural architecture, thermal protection system, and interfaces to the host spacecraft.
 - b. Efforts include conducting EEV entry, descent, and landing (EDL) trajectories to establish the vehicle entry environments, landing conditions, and landing footprint based on Utah Test and Training Range as the intended EEV landing location.
 - c. Design goal is an EEV capable of returning up to 25 kg of lunar materials to Earth.
3. Participate in TIM with IM (at mutually agreed upon location) to review updated IM mission design information and payload accommodation requirements and formulate fabrication and procurement strategies for the EEV aeroshell and thermal protection system(s) to support intended flight opportunities.
4. Conduct a briefing on the EEV conceptual design briefing (at mutually agreed upon location) to include systems engineering plans, schedules, and cost estimates

for future efforts required for detailed design, fabrication, and delivery of the first EEV flight unit.

5. Collaborate with IM to define follow-on activities for the next Annex.

B. Partner will use reasonable efforts to:

1. Participate in virtual EEV technical tag-up meetings with NASA LaRC.
2. Provide initial mission design information and requirements necessary for NASA development of the EEV conceptual design.
 - a. Mission design information includes atmospheric entry velocity, entry flight path angle, and entry flight path azimuth, including expected dispersions.
 - b. Requirements include spacecraft interfaces and payload accommodation requirements such as maximum allowable temperatures and mechanical loads that the samples experience during Earth EDL.
3. Participate in TIM with NASA LaRC (at mutually agreed upon location) to provide updated mission design information and requirements, and formulate fabrication and procurement strategies for the EEV aeroshell and thermal protection system(s) to support intended flight opportunities.
4. Attend NASA LaRC briefing on EEV conceptual design (at mutually agreed upon location).
5. Collaborate with NASA LaRC to define follow-on activities for the next Annex.

ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones for the activities for this Annex defined in the "Responsibilities" Article are as follows:

1. Authority to Proceed.	Effective Date of Annex + Receipt of Partner Payment at NASA LaRC
2. NASA LaRC and IM to participate in EEV technical tag-up meetings.	Weekly following Milestone 1
3. IM to provide initial mission design information and requirements.	Within one (1) month following Milestone 1
4. NASA LaRC and IM to participate in TIM.	Within one (1) month following Milestone 3
5. NASA LaRC and IM to define follow-on activities for the next Annex.	Within two (2) months following Milestone 4

6. NASA LaRC to conduct briefing on EEV conceptual design.	Within three (3) months following Milestone 4
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ARTICLE 4. FINANCIAL OBLIGATIONS

A. Partner agrees to reimburse NASA an estimated cost of \$170,000 for NASA to carry out its responsibilities under this Annex.

Each payment shall be marked with **Langley Research Center SAA1-38098, Annex 1.**

B. NASA will not provide services or incur costs beyond the current funding. Although NASA has made a good faith effort to accurately estimate its costs, it is understood that NASA provides no assurance that the proposed effort under this Annex will be accomplished for the estimated amount. Should the effort cost more than the estimate, Partner will be advised by NASA as soon as possible. Partner shall pay all costs incurred and have the option of canceling the remaining effort, or providing additional funding in order to continue the proposed effort under the revised estimate. Should this Annex be terminated, or the effort completed at a cost less than the agreed-to estimated cost, NASA shall account for any unspent funds within one (1) year after completion of all effort under this Annex, and promptly thereafter, at Partner's option return any unspent funds to Partner or apply any such unspent funds to other activities under the Umbrella Agreement. Return of unspent funds will be processed via Electronic Funds Transfer (EFT) in accordance with 31 C.F.R. Part 208 and, upon request by NASA, Partner agrees to complete the Automated Clearing House (ACH) Vendor/Miscellaneous Payment Enrollment Form (SF 3881).

ARTICLE 5. LIABILITY AND RISK OF LOSS

For the responsibilities and activities conducted under this Annex, and any claims arising thereunder, the following sentence shall be added to the end of Paragraph C, Article 8 (titled "Liability") of the Umbrella Agreement:

Prior to issuing such direction, NASA will consider input from Partner and other factors such as the extent to which damage was attributable to the activity and the respective responsibilities of each Party as described in the Agreement.

ARTICLE 6. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. Data produced under this Annex which is subject to paragraph C. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement will be protected for the period of one (1) year.

B. Under paragraph H. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement, Disclosing Party provides the following Data to Receiving Party.

The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data provided.

1. Background Data: *The Disclosing Party's Background Data, if any, will be identified in a separate technical document.*
2. Third Party Proprietary Data: *The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate technical document.*
3. Controlled Government Data: *The Disclosing Party's Controlled Government Data, if any, will be identified in a separate technical document.*
4. The following software and related Data will be provided to Partner under a separate Software Usage Agreement: *None*

ARTICLE 7. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or one (1) year from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

ARTICLE 8. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 9. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

Management Points of Contact	
<u>NASA Langley Research Center</u> Laurie Roberts Agreements Lead Space Technology and Exploration Directorate Mail Stop 104 Hampton, VA 23681 o. 757.864.5803 c. 757.814.6727 e. laurie.d.roberts@nasa.gov	<u>Intuitive Machines, LLC</u> Steven Seder Contracts 3700 Bay Area Blvd, Suite 600 Houston, TX 77059 c. 321.223.2094 e. sseder@intuitivemachines.com

Technical Points of Contact	
<u>NASA Langley Research Center</u> N. Ronald Merski Branch Head Atmospheric Flight & Entry Systems Branch Mail Stop 489 Hampton, VA 23681 o. 757.864.7539 e. n.r.merski@nasa.gov	<u>Intuitive Machines, LLC</u> Dr. Timothy P. Crain Chief Technology Officer 3700 Bay Area Blvd., Suite 600 Houston, TX 77059 c. 713.703.6186 e. tim@intuitivemachines.com

ARTICLE 10. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the Partner. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 11. SIGNATORY AUTHORITY

The signatories to this Annex covenant and warrant that they have authority to execute this Annex. By signing below, the undersigned agrees to the above terms and conditions.

NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION
LANGLEY RESEARCH CENTER

INTUITIVE MACHINES, LLC

BY: _____
David A. Dress
Director, Space Technology and
Exploration Directorate

BY: _____
Dr. Timothy P. Crain
Chief Technology Officer

DATE: _____

DATE: _____